

In the Claims:

2. The transgenic rodent according to claim 1 wherein the polynucleotide encoding a human UCP3 polypeptide is selected from the group consisting of:
- (a) a polynucleotide comprising a polynucleotide sequence having at least 95%, 96%, 97%, 98%, or 99% identity to the polynucleotide sequence of SEQ ID NO:1;
 - (b) a polynucleotide comprising the polynucleotide of SEQ ID NO:1;
 - (c) a polynucleotide having at least 95%, 96%, 97%, 98%, or 99% identity to the polynucleotide of SEQ ID NO:1;
 - (d) the polynucleotide of SEQ ID NO:1;
 - (e) a polynucleotide comprising a polynucleotide sequence encoding a polypeptide sequence having at least 95%, 96%, 97%, 98%, or 99% identity to the polypeptide sequence of SEQ ID NO:2;
 - (f) a polynucleotide comprising a polynucleotide sequence encoding the polypeptide of SEQ ID NO:2;
 - (g) a polynucleotide having a polynucleotide sequence encoding a polypeptide sequence having at least 95%, 96%, 97%, 98%, or 99% identity to the polypeptide sequence of SEQ ID NO:2;
 - (h) a polynucleotide encoding the polypeptide of SEQ ID NO:2;
 - (i) a polynucleotide having or comprising a polynucleotide sequence that has an Identity Index of 0.95, 0.96, 0.97, 0.98, or 0.99 compared to the polynucleotide sequence of SEQ ID NO:1; and
 - (j) a polynucleotide having or comprising a polynucleotide sequence encoding a polypeptide sequence that has an Identity Index of 0.95, 0.96, 0.97, 0.98, or 0.99 compared to the polypeptide sequence of SEQ ID NO:2.
3. The transgenic rodent according to claim 1 wherein the rodent is selected from the group consisting of:
- a) mouse; and
 - b) rat.

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4. The transgenic rodent according to claim 1 wherein the polynucleotide encodes a human UCP3 polypeptide of SEQ ID NO:2.
5. The transgenic rodent according to claim 2 wherein the polynucleotide encoding a human UCP3 polypeptide is the polynucleotide of SEQ ID NO:1.
6. The transgenic rodent of claim 1 wherein the human UCP3 polypeptide is expressed predominantly in skeletal muscle.
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9. The transgenic rodent of claim 1, wherein said transgenic rodent exhibits reduced body weight.
10. The transgenic rodent of claim 1, wherein said transgenic rodent exhibits increased wound-healing.
11. A method of producing the transgenic rodent as claimed in claim 1, said method comprising the steps of:
- a) preparing transgene construct comprising coding region of the gene of interest operably linked to an appropriate regulatory sequence;
 - b) removing vector sequences by restriction digest;
 - c) introducing the transgene into the rodent by pronuclear injection; and
 - d) re-transferring the injected eggs into the uteri of pseudo-pregnant recipient mothers.
12. The method of producing the transgenic rodent according to claim 11, wherein the rodent is a mouse and the transgene is introduced into mouse ES cells using a method selected from the group consisting of: electroporation, retroviral vectors, and lipofection for gene transfer.
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14. The transgene according to claim 13, wherein the rodent regulatory sequence is the alpha-actin promoter.